THE NORTHEAST REGIONAL OCEAN COUNCIL

2007 ANNUAL REPORT TO THE GOVERNORS OF NEW ENGLAND

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TABLE OF CONTENTS

This report was written by a core group of NROC delegates based upon the work of those who attended or contributed input to the 2007 NROC Congress. Special thanks for convening the Congress and for contributing significantly to this report go to: Ted Diers, Betsy Nicholson, Kate Killerlain-Morrison, Bruce Carlisle, Ron Rozsa, Kathleen Leyden, Jesse Mechling, and Brian Thompson. Ames Colt compiled and edited the final version of this report.

EXECUTIVE SUMMARY

NROC facilitates the development and implementation of coordinated regional coastal and ocean management goals and priorities. The development of regional coastal and ocean management goals and priorities is necessary to address issues and challenges that are inherently regional and to increase accountability of governmental actions. Renewable ocean energy (wind, wave, and current), maritime transportation and security, marine mammal protections, integrated ocean observing, coastal habitat restoration, and coastal and ocean mapping all require regional coordination and development of best regional practices.

In 2006, NROC prioritized four issue areas:

- Ocean and coastal ecosystem health
- Render New England a "Coastal Hazards Ready" Region
- Ocean energy planning and management
- Maritime security in New England

NROC proposes that action plans be created for each issue area and calls for individual states or other NROC partners to lead these thematic planning efforts. Currently, Connecticut, led by NROC Delegate Dr. Glenn Sulmasy of the U.S. Coast Guard Academy, is proposing to undertake planning for Maritime Security. The nascent Southern New England/New York Ocean Partnership has decided to focus its initial efforts on Coastal Hazard Response and Resiliency. Efforts are ongoing to initiate focused action planning for Ocean and Coastal Ecosystem Health and Ocean Energy Resources among other NROC representatives.

A major work goal for NROC in 2007 was to convene an "Oceans Congress" to foster discussion between federal and state agencies and representatives from regional organizations to establish short-term regional ocean management priorities in NROC's four theme areas. The Congress was convened May 24, 2007 at the University of New Hampshire with over sixty participants representing state and federal government, academia and non-governmental organizations. In preparation for the Congress, NROC worked with existing regional organizations to document and survey coastal and marine activities that would require or benefit from regional actions. NROC received a significant amount of useful, well-considered feedback prior to and during the Congress, which has been summarized in the following sections by issue area.

Coastal and Ocean Ecosystem Health

Goal:
All levels of government and private entities embrace ecosystem-based management principles to sustain and improve coastal and ocean health, recognizing the humans are an integral part of all coastal and ocean ecosystems.

Possible NROC Responses:

- Promote existing regional ocean health initiatives;
- Advocate for enhanced federal state partnerships by maintaining critical federal programs such as the National Coastal Assessment, and federal support for coastal and marine planning and science, watershed monitoring, and coastal nonpoint source controls.
- Identify ways to better share data and mapping products and leverage federal resources for seafloor mapping, near-shore and estuary mapping, undersea habitat mapping and

classification; make a request to SIMOR and the White House Committee on Ocean Policy for assistance in this area.
- Participate in forum to build a conceptual framework representing the key foundational elements of an ecosystem based management model for NROC partners.
- Support current mapping and ocean observation initiatives and so that a functional, integrated ocean observing system for the Northeast U.S. will emerge expeditiously and cost-effectively. (This response would cut across all of NROC priority issue areas.)
- Assist in operationalizing ecosystem-based management for Northeast coasts and oceans, beginning with development of a statement for adoption by the New England Governors Conference.

Render New England a "Coastal Hazards Ready" Region

Goal:
Render New England a Coastal Hazards Ready region by providing existing federal, state and municipal programs with state-of-the-art data and tools to advance planning and response to storms, shoreline erosion and coastal inundation due to projected sea level rise from global warming.

Possible NROC Responses:
- Identify data acquisition priorities and user-friendly tools needed to support planning for and responses to coastal hazards, including a federal-state approach to leveraging funding. The goal is to acquire the best data and tools for existing federal, state and municipal agencies to plan and respond to coastal hazards and to become a storm and global warming inundation "ready region".
- Partner with academia, industry and public agencies to develop a plan for an Integrated Ocean Observing System (IOOS) that supports storm, storm surge and inundation forecasting and response.
- Promote regional dialogue on broad-scale adaptation strategies for responding to the effects of sea-level rise.
- Encourage the Administration to add FEMA to SIMOR co-chairs or to include FEMA in federal workgroup for the New England region.
- Collaborate on mitigation strategies for multiple hazards scenarios, including potential for liquefaction from moderate to large earthquakes.
- In consultation with the federal work group, evaluate the need for partnering on a regional basis to implement inventories of coastal structures (e.g., USACOE Beach Erosion control studies) and culverts (to identify potential 'levee' breach areas), and the need for regional sediment management plans (to identify sand sources for beach nourishment).

Ocean Energy Planning & Management

Goal:
The planning, siting, authorization, and operation of coastal and ocean energy generating and distribution facilities will be made in accordance within a regional strategic context via improved coordination, communication and responsible stewardship of the public trust, so that these facilities help to meet the region's energy needs from a diverse portfolio of energy sources. NROC should help the states of the northeast U.S. play a primary role in approving, denying or regulating energy or other facilities within their own state waters.

Possible NROC Responses:

- Examine and communicate the states' interest in their role in federal authorizations of energy projects in state and federal waters (e.g., FERC, MMS Alternative Energy, CZMA federal consistency);
- Provide a platform for coordination of data and information acquisition and dissemination for offshore energy planning (e.g., airborne and ship-based remote sensing, habitat classification, and renewable technology);
- Enhance public communications regarding the role of renewable ocean energy sources in a responsible regional energy strategy.

Maritime Security in New England

Goal:
Create a cohesive, effective, enhanced regional maritime security regime and posture, utilizing the resources of the state and federal entities located within New England.

Possible NROC Response:

- Convene a regional maritime security action team to examine existing structures and recommend strategy to improve regional security issues, including federal/state/local interaction dialogue;
- Use the Northeast states as "test" environments for piloting better maritime communications equipment and systems;
- Highlight and address navigation concerns with regard to funding for small ports, and developing better regional dredging and sediment management structures. (This response would cut across all of NROC priority issue areas.)

Next Steps

NROC has completed the tasks it set out for itself in the 2006-2007, due primarily to the dedication and efforts of a core group of individuals, most of whom are based in state Coastal Zone Management programs. If NROC is to develop into a effective regional institution, it will need to cultivate support from a broader range of governmental and non-governmental players. Expanding ties to local and sub-regional governments and users should also be carefully considered.

NROC will determine which regional responses or actions it will pursue with feedback from the New England Governors, the Oceans Working Committee, SIMOR, research institutions, user groups state agency leaders, and NGO's. If federal legislation regarding regional ocean management institutions is passed in 2007, it will be important for NROC to make any necessary organizational changes to reflect new federal mandates for regional ocean governance. Regardless of what happens at the federal level, it will be important to define how NROC relates to existing regional efforts in management, science, outreach, and education so that it is clear (and well-communicated) how multiple institutions will collaborate to accomplish key regional priorities.

NROC needs to determine which planning workgroups or sub-regional organizations will be spun up to work on targeted action planning for its designated priority areas. This will depend largely upon the willingness of state jurisdictions or other entities to lead such planning initiatives. This report will be utilized, possibly in an expanded form, to solicit input from regional partners and leaders on how targeted action planning should proceed.

Finally, a number of NROC delegates have been discussing on how NROC should work with the regional ocean observing associations active in the Northeast U.S. NROC could serve as an important means by which regional ocean observing systems would link dynamically to management and policy. There are a number of questions to be resolved on how this should occur as sub-regional ocean observing systems are developed and integrated across the region. Planning is underway to convene an NROC meeting in August 2007 dedicated to integrated ocean observing systems and how NROC can enhance their management and policy utilities.

INTRODUCTION: REGIONAL COASTAL & OCEAN GOVERNANCE

The voluntary establishment of regional ocean councils, developed through a process supported by the National Ocean Council, would facilitate the development of regional goals and priorities and improve responses to regional issues. Improved coordination of federal agencies at the regional level would complement the establishment of regional ocean councils, improving the federal response to state and local needs while furthering national goals and priorities. The development and dissemination of regionally significant research and information is imperative to meet the information needs of managers and support ecosystem-based decisions.

- U. S. Commission on Ocean Policy, 2004

In December 2004, President Bush issued the 2004 U. S. Ocean Action Plan as a federal initiative to begin implementing the recommendations and strategies expressed in the U.S. Commission on Ocean Policy's final report, *An Ocean Blueprint for the 21st Century*. The Ocean Action Plan and the Ocean Blueprint emphasize the critical importance of developing new institutions and partnerships for regional coastal and ocean governance.

At the 2005 Annual Meeting of the New England Governors and Eastern Canadian Premiers, Rhode Island Governor Donald L. Carcieri proposed the creation of a regional ocean partnership for New England. Resolution 29-03 (2005) emerged from this meeting establishing the Northeast Regional Ocean Council, consisting of delegates from the six New England States and ex-officio members from U.S. federal agencies. In 2006, the New England Governors and Eastern Canadian Premiers issued Resolution 30-1 calling for the creation of the Oceans Working Committee to "foster international cooperation and collaboration on all aspects of marine and oceans-related research and development, education, exploration, observation, and oceans management." The OWC is comprised of representatives from NROC and Canadian federal and provincial officials working on regional issues. The Canadian Co-Chair of OWC, Mike Warren of Newfoundland/Labrador attended the NROC Ocean Congress (discussed below) in May 2007 and has been working with the U.S. OWC Co-Chair, Ames Colt of Rhode Island, to establish the OWC's agenda for bi-national collaboration between the northeast U.S. and Atlantic Canada on regional coastal and ocean governance.

The Northeast Regional Ocean Council

NROC facilitates the development and implementation of coordinated and collaborative regional goals and priorities. Coordinated and collaborative regional coastal and ocean management goals and priorities will improve governmental and socio-economic responses to issues and challenges that are inherently regional and to increase accountability of governmental actions. Renewable ocean energy (wind farms), maritime transportation and security, marine mammal protections, integrated ocean observing, coastal habitat restoration, and coastal and ocean mapping all benefit from improved coordination or development of regional best practices.

NROC partners directly with the President's Ocean Policy Committee and its Subcommittee on the Integrated Management of Ocean Resources (SIMOR) to communicate and collaborate on the northeast region's needs to the U.S. federal government, and to address issues of national scope in the northeast such as implementation of the 2004 U.S. Ocean Action Plan.

SIMOR's 2006 work plan cites the following desired actions for the New England region:

- Support the establishment of place-based activities and collaborative decision making in the New England region with the development of best practices and lessons learned.

- [S]upport the . . . establishment of a Northeast Regional Ocean Council—a state-led effort proposed by Rhode Island—by identifying possible geographic areas that could benefit from improved federal coordination and working with states and local government, as well as non-governmental entities.

SIMOR has designated the National Ocean and Atmospheric Administration (NOAA) and the U.S. Department of the Interior to be the lead federal agencies to NROC.

The New England Governors have each appointed 1-2 delegates to NROC (Appendix A). Other state officials have contributed significant time and resources to NROC since its inception. No operating funds are currently available to NROC, so it has been important to delineate upfront the most useful roles NROC could play in the region. Hence, NROC has yet to establish formal rules of procedure or by-laws and has been relying upon a core group of participants to implement its current work plan.
As NROC's responsibilities and activities expand, it will become necessary to develop additional structure and decision-making processes for NROC, possibly in conjunction with the New England Governor's Conference, the OWC, and other partners. In addition, passage of the pending U.S. federal "Oceans 21" legislation could lead to important alterations to NROC's current make-up and operations.

NROC's Initial Efforts

Important formative meetings for NROC took place in January and July of 2006. It was agreed from the outset that NROC would look closely at four priority issue areas:

- Ocean and coastal ecosystem health
- Render New England a "Coastal Hazards Ready" Region
- Ocean energy planning and management
- Maritime security in New England

Work through the fall of 2006 led to issuance of the first NROC annual work plan in December 2006 (Appendix B). Through these meetings and ensuring development of the work plan, there was consensus that the development and implementation of NROC should recognize the following considerations:

- NROC must avoid duplicating plans and actions of existing regional programs and instead coordinate activities and programs between sub-regions and foster the identification and pursuit of cross-sectoral, region-wide issues and priorities.

- Sub-regional partnerships such as the Gulf of Maine Council on the Marine Environment and the Long Island Sound Study will remain central to the pursuit of better regional ocean governance. These entities are already implementing on a multi-state basis, regional ocean management action plans. Additional important systems-based planning occurs (and will continue to occur) at smaller scales, such as EPA's National Estuary

Program and special area management planning (SAMP) by state Coastal Zone Management programs.

- Despite the long history of regional planning for Long Island Sound, there is no sub-regional ocean partnership for southern New England and New York's marine waters –a series of sounds (or shallow seas) running from New York's East River east to Nantucket Sound characterized by relatively low-energy tidal flows, densely developed, highly variegated shorelines, productive benthic and estuarine habitats, strong seasonal recreation and tourism sectors, and significant maritime activities and infrastructure for commercial fisheries, maritime transportation and navigation, energy, telecommunications, recreational boating, and boat building and maintenance. Hence, in early 2007 the coastal zone management programs of New York, Connecticut, Rhode Island and Massachusetts launched a new collaboration, currently known as the *Southern New England/New York Ocean Partnership*.

The 2006-2007 Work Plan proposes that action plans be created for each of the four priority issue areas and calls for individual states or other NROC partners to lead these planning efforts. Currently, Connecticut, led by NROC Delegate Dr. Glenn Sulmasy of the U.S. Coast Guard Academy, is proposing to undertake planning for Maritime Security. The nascent Southern New England/New York Ocean Partnership has decided to focus initially on Coastal Hazard Response and Resiliency. Efforts are ongoing to initiate action planning for Ocean and Coastal Ecosystem Health and Ocean Energy Resources

Partnering with other Regional Organizations in the Northeast U.S. and Atlantic Canada

NROC is by no means the first regional coastal and ocean governance initiative in the northeast U.S. In the early 1980's, the coastal zone managers from New York to Maine met regularly to identify regional issues and secure interstate grants under §309 of the Coastal Zone Management Act. A §309 interstate grant was used to create the independent and international ocean partnership known as the Gulf of Maine Council on the Marine Environment. Another sub-regional interstate ocean and coastal partnership is the Long Island Sound Study, a bi-state, federal partnership intended to foster ecosystem-based management of Long Island Sound. Additionally, the Northeast Regional Association of Coastal Ocean Observing Systems (NERACOOS) has been established to promote the development and application of integrated ocean observing systems under the aegis of the National Oceanic and Atmospheric Administration's IOOS program. The Communications Partnership for Science and the Sea (COMPASS) is working to "toward coordinating regional science that is relevant to management and policy". Finally, NROC recognizes the long-standing regional institutions dedicated to the management of marine fisheries in federal waters, particularly the New England Marine Fisheries Management Council.

PRIORITIES FOR REGIONAL COASTAL AND OCEAN GOVERNANCE IN THE NORTHEASTERN U.S.

A major goal for NROC in 2006-2007 was to convene an "Oceans Congress" to foster discussion between federal and state agencies and representatives from regional organizations to establish short-term regional ocean management priorities in NROC's four priority areas. In preparation for the Congress, convened May 24, 2007, at the University of New Hampshire with over sixty attendees, NROC worked with existing regional organizations to document activities and to survey regional organizations regarding which coastal and issues in the Northeast U.S. require or would significantly benefit from regionally-driven actions. NROC received useful and thoughtful feedback prior to and during the Congress, which has been summarized in the following sections by issue area.

Ocean and Coastal Ecosystem Health

Goal:
The importance of coastal and ecosystem health is recognized as critical to the long-term sustainability of our region and all levels of government have access to and utilize comprehensive information to manage coastal and ocean resources.

Context:
The Northeastern U.S. coast is a rich and diverse place, from the shallow sea of Long Island Sound to the beaches of Cape Cod, and the rocky shores and complex circulatory patterns of the Gulf of Maine. These ecosystems have abundant resources and have supported coastal communities for generations; for example, fish landings and associated activities contribute over $800 million annually to the regional economy. But these valuable ecosystems are vulnerable. The impacts of increasing human uses including many new industrial uses, and the effects of fractured management are showing in degraded water quality, depleted fish stocks, and damaged habitat, as evidenced by documented "dead zones" in the Long Island Sound and decreased anadromous fisheries in the Gulf of Maine. The New England states have also identified the links between human activity on the land with the health of our coasts and estuaries with each state having a NOAA-approved coastal nonpoint source pollution plan.

The U.S. Commission on Ocean Policy identified ecosystem-based management (EBM) as necessary to protecting the ecological and economic value of coastal ecosystems. This management approach emphasizes ecological rather than political boundaries, since fish and pollutants do not recognize different jurisdictions, and seeks to incorporate scientific information, adaptive management, protecting biodiversity, and participatory, understandable governance into public sector and eventually private sector, decision-making. As our oceans come under increasing stress from the effects of climate change, it is essential to move towards an EBM approach that can utilize regional information and better protect intact, healthy marine ecosystems. The keys to successful EBM are: Possessing adequate information to understand the interrelated nature of ocean and coastal systems, linking that information through modeling and analysis to management and policy decisions, and creating the governance structures to carry-out and sustain those decisions.

Literally thousands of people are working to protect and restore coastal and ocean ecosystem health in the Northeastern U.S. As such, we are uniquely positioned to take a regional ecosystem approach by applying experience from the Long Island Sound Study, Gulf of Maine Council and the region's scientific and policy expertise. The issues surrounding coastal and ocean ecosystem

health are pervasive across all the ocean management issues identified as NROC priorities. Because there are so many people, agencies and organizations already working on the coastal and ocean ecosystem health, NROC's role should be to enhance communication and collaboration amongst these parties, advocate for what is collectively determined to be the highest priority regional actions, and to help articulate a common vision for management and restoration.

The states have identified three areas of focus within coastal and ocean ecosystem health: 1) Linking observations to management decision-making, 2) enhanced data collection, integration and dissemination, and 3) better governance, coordination and communication. Towards these ends, NROC should lead efforts that improve regional data and information gathering, apply that information to management decisions, and improve regional governance and coordination.

Key Issues:

- There is a strong connection between land uses and coastal and ocean health;
- Ecosystem Based Management is a key way to manage resources;
- Governance over resources and uses is fragmented making coordination difficult;
- Integrated assessment of ecosystem status is needed to better react and understand potential impacts and changes;
- Spatial and spatially-organized databases are central to coastal and ocean management and require an integrated and accessible framework for data collection, organization, and analysis across sectors.

Possible NROC Responses:

- Promote existing regional ocean health initiatives;
- Advocate for enhanced federal state partnerships by maintaining critical federal programs such as the National Coastal Assessment, and federal support for coastal and marine planning and science, watershed monitoring, and coastal nonpoint source controls.
- Identify ways to better share data and mapping products and leverage federal resources for seafloor mapping, near-shore and estuary mapping, undersea habitat mapping and classification; make a request to SIMOR and the White House Committee on Ocean Policy for assistance in this area.
- Participate in forum to build a conceptual framework representing the key foundational elements of an ecosystem based management model for NROC partners.
- Support current mapping and ocean observation initiatives and so that a functional, integrated ocean observing system for the Northeast U.S. will emerge expeditiously and cost-effectively. (This response would cut across all of NROC priority issue areas.)
- Assist in operationalizing ecosystem-based management for Northeast coasts and oceans, beginning with development of a statement for adoption by the New England Governors Conference.

Other Priority Regional Responses:

- Expand the Gulf of Maine Ocean Data Partnership to the rest of New England;
- Agree upon ways to measure and report sea level rise throughout New England;
- Work with state agencies to convene a group to create a structure for tracking "environmental events" as a way better understanding changes happening on our coasts;
- Identify ecologically significant habitats (on the basis of habitat mapping programs)
- Coordinate efforts on ocean literacy and education and consider launching a "thankyouocean.com" style campaign.

Render New England a "Coastal Hazards Ready" Region

Goal:
Render New England a Coastal Hazards Ready region by providing existing federal, state and municipal programs with state-of-the-art data and tools to advance planning and response to storms, shoreline erosion and coastal inundation due to projected sea level rise from global warming.

Context:
The U.S. Commission of Ocean Policy concluded:

Rising populations and poorly planned development in coastal areas are increasing the vulnerability of people and property to storms, hurricanes, flooding, shoreline erosion, tornadoes, tsunamis, and earthquakes. In addition, climate change may lead to more frequent storms and sea-level rise, both of which increase coastal susceptibility. Not only can natural hazards have devastating impacts on people and property, but they may also have deleterious effects on the environment, particularly sensitive habitats.

Sea level rise is altering New England's coastal shorelines through inundation and shoreline erosion. While erosion rates are reported as an annual rate of change, these annual rates actually map changes caused by aperiodic storms such as nor'easters and hurricanes. The region has been free of devastating hurricanes since the 1950's. If a hurricane equivalent to the 1938 hurricane struck the New England coast in 2007, it would rank as the sixth costliest hurricane in U.S. history. New England hurricanes are often accompanied by significant rainfall and riverine flooding that has led to the construction of flood control dikes and levees. The level or protection afforded by these structures is expected to decrease and drainage problems behind dikes should increase as groundwater tables rise as a result of accelerated sea level rise.

A number of scientists project that global climate change will increase the severity, if not the frequency, of hurricanes. Recent polls demonstrate that coastal residents are unprepared for hurricanes and underestimate the risks they pose.

Science-based forecasts for accelerated sea level rise over the next 100 years due to global warming are as high as 1.5 meters. Additional sea level rise is expected due to the melting of land-based glaciers in Greenland and Antarctica with suggestions that a 4-meter rise by 2100 is plausible unless significant steps are taken to reduce greenhouse gases. As sea level rise accelerates, shoreline erosion rates will accelerate.

Several New England states have experienced significant abnormal inland flooding events (climate change forecasters predicted these types of changes for the region) that have lead to river flooding, loss of life and major damage to infrastructure. Backwater flooding from undersized culverts under roads causes some of this damage. In addition to roads, undersized culverts connecting embayments to the ocean through barrier beaches are locations where breaching may occur and induce inlet formation, inlet migration, and an ensuing loss of property and structures.

Data such as detailed terrestrial contour, shallow water bathymetry and mean high water positions to name a few, are universally needed throughout the region to support planning for storm surge, erosion and global warming-induced inundation (GWI). A companion to data is the need to develop user-friendly tools to access and analyze data and support management decisions and recommendations. Regional sediment management plans are lacking. Better models exist that would improve surge and storm forecasting (e.g., high resolution atmospheric) and the integration of atmospheric and ocean models/data will yield the most accurate forecasting.

Key Issues:

- The region lacks sufficient data and models to adequately anticipate and respond to storm surge and inundation;
- Data collection efforts should take advantage of potential synergies and economies of scale through a federal-state partnership to acquire such data on a regional basis;
- Infrastructure of tremendous importance to all of the New England region such as highways, rail, and ports are threatened by coastal storms and inundation whose damage would have major and long-term implications for the New England economy and New England's coastal residents.

Possible NROC Responses:

- Identify data acquisition priorities and user-friendly tools needed to support planning for and responses to coastal hazards, including a federal-state approach to leveraging funding. The goal is to acquire the best data and tools for existing federal, state and municipal agencies to plan and respond to coastal hazards and to become a storm and global warming inundation "ready region".
- Partner with academia, industry and public agencies to develop a plan for an Integrated Ocean Observing System (IOOS) that supports storm, storm surge and inundation forecasting and response.
- Promote regional dialogue on broad-scale adaptation strategies for responding to the effects of sea-level rise.
- Encourage the Administration to add FEMA to SIMOR co-chairs or to include FEMA in federal workgroup for the New England region.
- Collaborate on mitigation strategies for multiple hazards scenarios, including potential for liquefaction from moderate to large earthquakes.
- In consultation with the federal work group, evaluate the need for partnering on a regional basis to implement inventories of coastal structures (e.g., USACOE Beach Erosion control studies) and culverts (to identify potential 'levee' breach areas), and the need for regional sediment management plans (to identify sand sources for beach nourishment).

Other Regional Responses:

- Identify infrastructure that is critical to the economy of the region and directly threatened by storms and coastal inundation. (This response would cut across all of NROC priority issue areas.)
- Explore approaches to developing and implementing regional sediment management plans, especially where they cross jurisdictions. (This response would cut across all of NROC priority issue areas.)

Ocean Energy Planning & Management

Goal:

The planning, siting, authorization, and operation of coastal and ocean energy generating and distribution facilities will be made in accordance within a regional strategic context via improved coordination, communication and responsible stewardship of the public trust, so that these facilities help to meet the region's energy needs as part of a diverse portfolio of energy sources. NROC should recognize and emphasize the states' primary role in approving, denying or regulating energy or other facilities within state waters.

Context:
As addressed in the NEGC's 2005 report on the region's future natural gas needs, energy demands in the Northeast continue to grow, and many are concerned that supplies and infrastructure are inadequate to handle them in the future. Over the past several years, a multitude of new projects have been proposed for traditional and non-traditional (renewable and non-renewable) energy facilities in state and federal waters. At this point, planners, managers, and regulators lack the complete information base required to evaluate these projects regionally and, most importantly, they lack an interstate regulatory and governance framework. As a result, the policy framework that has emerged tends to be project specific, and reactive, stemming largely from federal law and federal agency Outer Continental Shelf (OCS) programs. The siting, construction, and operation of coastal and ocean energy infrastructure in federal and state waters will continue to be fragmented and contentious without better information on the resources and ecosystems that will be impacted and a collaborative strategic management approach among local, state, and federal entities.

NROC recognizes that important distinctions exist between offshore renewable electric generation facilities (wind and tidal), and fossil fuel terminals/transmission facilities such as liquid natural gas or oil terminals, cables and pipelines. Oil and gas terminals and transmission facilities (including electric cables), by contrast, can be overbuilt or improperly sited, and thus should be allowed to impact coastal and ocean resources only to the extent that they are necessary components of a regional energy strategy. Such a strategy must include an allocation of supply and transmission facilities that meet regional energy needs and appropriately incorporate environmental and climate change considerations.

Adding to the complexity of the regional energy picture are uncertainties concerning the states' role in decisions and investments regarding energy projects in federal waters (e.g. preemption in Energy Policy Act of 2005). Additionally, controversy remains strong regarding how to assess environmental impacts, use conflicts, and safety concerns when siting and designing future coastal and ocean energy facilities.

As a consequence of magnified national and international concerns about the effects of climate change, interest in renewable ocean energy sources continues to grow. The Northeast U.S. has demonstrated strong leadership through the establishment and implementation of the Regional Greenhouse Gas Initiative and other climate change mitigation efforts within each jurisdiction. Renewable ocean energy technologies are still evolving, and there are few commercial-scale installations in the U.S. to evaluate. In addition to details on the short and long-term effects of energy technologies based upon wind, wave, and current, there is a critical need for baseline information on the coastal and ocean environment for which they are proposed, or may be proposed. Core data on bathymetry, seafloor geology and biota, current and hydrodynamics, wind patterns, distribution of natural resources, and current and future uses will fuel the strategic thinking on the siting of facilities where the renewable sources have the greatest potential and so that adverse effects can be minimized or eliminated. Finally, energy facility siting should be conducted on a regional basis in order to facilitate the selection of commercially viable areas and ensure the protection of significant habitats and uses.

Key Issues:

- Planners, managers, and regulators lack the context and information base to evaluate the impacts of energy projects on the coastal and marine environment and traditional uses;
- The *de facto* policy framework that has emerged in the region is "first come, first served", project-by-project, and reactive;

- Jurisdictional and regulatory tensions exist regarding for example the role of the states in reviewing and influencing with projects proposed for federal waters and the limits placed upon states' oversight of projects located in state waters due to FERC preemption.

Possible NROC Responses:

- Examine and communicate the states' interest in their role in federal authorizations of energy projects in state and federal waters (e.g., FERC, MMS Alternative Energy, CZMA federal consistency);
- Provide a platform for coordination of data and information acquisition and dissemination for offshore energy planning (e.g., airborne and ship-based remote sensing, habitat classification, and renewable technology);
- Enhance public communications regarding the role of renewable ocean energy sources in a responsible regional energy strategy.

Other Regional Responses:

- Develop marine jurisdictional maps (i.e., cadastres) to clarify in legal and spatial terms, jurisdictional issues. Incorporate current and future coastal and marine uses;
- Coordinate state, federal and other resources to generate or disseminate information critical to an informed regional energy strategy regarding:
  - Seafloors and habitats
  - Living resources, including fisheries, marine mammals, avifauna
  - Emerging ocean energy technologies
- Encourage pilot project and R&D zones and collaborative funding of test installations of new technologies.

Maritime Security in New England

Goal:

Create a cohesive, effective, enhanced regional maritime security regime and posture, utilizing the resources of the state and federal entities located within New England.

Context:

Maritime security is of major importance to New England and encompasses a number of issues: port and transportation security, food security, vessel and navigation security, and threats to energy infrastructure, existing and proposed. Threats to maritime security have increased dramatically since 9/11/01, and will grow with increased ocean resource depletion, and projected sea level rise and increased storm damage potential. Attacks and environmental changes that occur will not be confined to individual states or cities but are likely to have major regional effects. Maintaining the integrity of key infrastructure before, during and after a security threat, natural or man-made, is critical to sustaining economic viability for the region.

Within New England, with its vast coastline and attractive terrorist targets such as Boston, Portland, New London, Portsmouth, and Newport, there is an imperative need for better communications, partnership and actual structure to some existing relationships. We need a unified, robust communications system that will effectively serve first responders, military, law enforcement and decision makers. Such a system remains elusive on the federal front, but employing or testing such systems regionally will better and more rapidly achieve the needs of all involved in responding to security threats. There is also a need for a comprehensive, ocean planning scheme that addresses specific security concerns for energy facilities and their operation, natural resource extraction, and port, harbor, and vessel operations.

Key Issues

- A robust regional maritime security structure will promote inter-operability and resilience once an attack occurs. Further, it will promote deterrence if it is known and understood that a strong security plan is in place.
- An expanded, unified communications system will benefit first responders, military, law enforcement and decision makers in responding to either natural coastal hazards or maritime security threats or incidents.
- Security risks also emerge from global climate change, ocean resource depletion, and other environmental concerns. Any security regime needs to be broad-based, not simply an anti-terror structure.

Possible NROC Response:

- Convene a regional maritime security action team to examine existing structures and recommend strategy to improve regional security issues, including federal/state/local interaction dialogue;
- Use the Northeast states as "test" environments for piloting better maritime communications equipment and systems;
- Highlight and address navigation concerns with regard to funding for small ports, and developing better regional dredging and sediment management structures. (This response would cut across all of NROC priority issue areas.)

Other Regional Responses:

- Identify and map all nearshore at-risk targets e.g. power plants, ports, energy storage, hazardous material sites.
- Develop regional response plans for at-risk sites. For example, if regional natural gas infrastructure is destroyed or damaged in one state, how will the region as a whole continue to be supplied with natural gas?

NEXT STEPS FOR NROC

With the exception of the targeted planning initiatives (which by definition have multi-year timeframes), NROC has essentially completed the tasks it set out for itself in the 2006-2007. This progress is due primarily to the dedication and efforts of a small core group of individuals from across the region, most of whom are based in state coastal zone management programs. If NROC is to develop into a truly effective regional governance institution, it will need to cultivate support from a broader range of governmental and non-governmental players within and external to NOAA-led or funded programs and institutions. It is also becoming apparent that NROC should carefully consider expanding ties to local and sub-regional governments and users.

NROC will determine which regional responses identified in this report should be pursued in the short- and long-term. These choices will be made in relation to feedback from the New England Governors, the Oceans Working Committee, SIMOR, research institutions, user groups state agency leaders, and NGO's. This priority setting process will lead to issuance of NROC's next work plan for 2007-2008. If federal legislation regarding regional ocean management institutions is passed in 2007, it will be important for NROC to respond quickly by making any necessary organizational changes to reflect new federal mandates for regional ocean governance. At this point NROC feels that it is prudent to await the outcomes of this Congressional session before finalizing NROC's terms of reference. It will be important however to continue to define how NROC relates to and enhances existing regional efforts in management, science, outreach, and

education so that it is clear (and well-communicated) to all interested parties how multiple institutions will collaborate to accomplish key regional management and governance priorities.

NROC needs to determine which subcommittees or sub-regional organizations will be spun up to work on targeted action planning for its four designated priority areas. This will depend largely upon the willingness of individual state jurisdictions or other entities to take the lead on such planning initiatives. This report will be utilized to solicit input from regional partners and leaders on how such targeted action planning should proceed and what the 2007-2008 NROC work plan should contain accordingly.

Finally, a number of NROC delegates have been actively discussing how NROC should interact with the regional ocean observing associations active in the Northeastern U.S. Many feel that NROC could serve as an important means by which regional ocean observing systems are linked to management and policy. There are a number of questions still to be resolved on how this should occur. Planning is currently underway to convene a full NROC meeting in September 2007. One topic will be regional ocean observing systems and how NROC can enhance their management and policy utilities.

APPENDIX A: NROC DELEGATES & PARTICIPANTS

SEPTEMBER 2007 ROSTER

(Gubernatorial and federal appointments in bold)

CONNECTICUT

Gina McCarthy
Commissioner
Connecticut Depart. of Environ. Protection

Glenn Sulmasy
Associate Professor of Law
U.S. Coast Guard Academy

Ron Rozsa
Coastal Ecologist
Connecticut Depart. of Environ. Protection
Office of Long Island Sound Programs

Brian Thompson
Director
Connecticut Depart. of Environ. Protection
Office of Long Island Sound Programs

MAINE

Kathleen Leyden
Director
Maine Coastal Program
Maine State Planning Office

George LaPointe
Commissioner
Maine Department of Marine Resources

Deirdre Gilbert
Special Assistant to the Commissioner
Maine Department of Marine Resources

MASSACHUSETTS

Leslie-Ann McGee
Director
Massachusetts Coastal Zone Management

Bruce Carlisle
Interim Director
Massachusetts Coastal Zone Management

David Janik
South Coastal Regional Coordinator
Massachusetts Coastal Zone Management

NEW HAMPSHIRE

Ted Diers
Director
New Hampshire Coastal Program
Department of Environmental Services

Thomas Burack
Commissioner
New Hampshire Department of Environmental Services

RHODE ISLAND

W. Michael Sullivan
Director
Rhode Island Department of Environmental Management

Ames Colt
Chair
Rhode Island Bays, Rivers, & Watersheds Coordination Team

VERMONT

George Crombie
Secretary
Vermont Agency of Natural Resources
Center Building

FEDERAL REPRESENTATIVES (EX-OFFICIO)

Betsy Nicholson
Regional Coastal Program Specialist
National Oceanic and Atmospheric Admin.
University of New Hampshire

Marvin Moriarty
Regional Director, Northeast Region
U.S. Fish and Wildlife Service

Mel Cote
Manager, Ocean & Coastal Protection Unit
U.S. EPA Region I

David W. Reynolds
Acting Associate Regional Director
Resources Stewardship and Science
Northeast Region – National Park Service

Rodney Cluck
Environmental Sociologist and Cape Wind Project Manager
Minerals Management Service

David P. Russ
Regional Executive
U.S. Geological Survey

Susan Russell-Robinson
Staff Scientist - Eastern Region
U.S. Geological Survey

Nancy Thompson
Director, Northeast Fisheries Science Center
National Oceanic and Atmospheric Administration, National Marine Fisheries Service

APPENDIX B: NROC WORK PLAN – NOVEMBER 2006 TO OCTOBER 2007

Updated May 14, 2007

For the period of November 2006, to October 2007, NROC will pursue five key tasks:

1) *Develop a FY 2008 Appropriations request to Congress from the six New England governors to support the Gulf of Maine Council on the Marine Environment (GoMC) and the proposed Northeastern Sounds Ecosystem Alliance.*

Rationale: Important collaborative work on issues related to ocean governance and ecosystem management is occurring within the northeast region of the U.S., specifically in the Gulf of Maine and Long Island Sound. Federal support that matches state resources will be necessary in order to extend regional planning, policy and decision-making approaches to the all of the northeastern U.S.'s coastal ocean waters.

Approach: A joint letter signed by the six New England governors (Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, and Connecticut) and addressed to the northeast region's Congressional delegations will request an appropriation that supports the work of the Gulf of Maine Council on the Marine Environment and the Northeastern Sounds Alliance (discussed below). The letter will be crafted by NROC and presented to Governors for submittal to Congress by February 1, 2007.

Status: Complete

Letter sent to the Honorable Robert C. Byrd (Chairman, Senate Appropriations Committee) and the Honorable David R. Obey (Chairman, House Appropriations Committee), on March 28, 2007. Request included $1.1 million for the Gulf of Maine Council on the Marine Environment, $100,000 for the Southern New England sub-regional efforts and $100,000 for start up funds for NROC.

2) Create a regional entity for southeastern New England's sounds parallel in purpose and scope to the Gulf of Maine Council on the Marine Environment.

Rationale: The U.S. Commission on Ocean Policy's final report states that: "Regional approaches focus efforts within whole ecosystems, rather than arbitrary political boundaries, provides an opportunity for decision makers at all levels to coordinate their activities, reduce duplication of efforts, minimize conflicts, and maximize limited resources." There have been recent discussions and proposals to create a regional planning and management entity to bring together interests and organizations from Long Island Sound to Nantucket Sound, such as a strategic focus group meeting convened by Rhode Island Sea Grant in September 2004. Clearly there is interest and articulated needs for such an organization.

Approach: Initiate a regional ocean council dedicated to Long Island Sound and southeastern New England's coastal waters (Block Island Sound, Rhode Island Sound, Buzzards Bay, Nantucket Sound and Vineyard Sound.) Rhode Island proposes that this new entity be called the *Northeastern Sounds Ecosystem Alliance*.

Status: Complete/In Progress

The *Southern New England/New York Ocean Partnership* has defined a discrete geographic area and after several planning meetings, has developed issue papers specific to their sub-region, on coastal hazards and energy. The *Partnership* will continue to meet to address Action Items defined at the May 2007 NROC Ocean Congress.

3) Convene a Northeast Regional Ocean Congress in the spring of 2007 to establish short-term regional ocean management priorities

Rationale: Many regional and sub-regional organizations are mature and pursuing sophisticated action plans to address large-scale ocean management and science issues. Groups such as the Gulf of Maine Council on the Marine Environment (GOMC) and the Sound Ecosystem Alliance (SEA), The Regional Association for Research in the Gulf of Maine (RARGOM), The Northeast Regional Association of Coastal Ocean Observing Systems(NERACOOS), Sea Grant's northeast regional fisheries extension programs and the newly formed Gulf of Maine Ocean Science Council, the Communications Partnership for Science and the Sea (COMPASS) and many other organizations are all active in the northeastern United States.

Approach: Each regional organization will be asked to identify their top 3-4 short-term (1-3 years) priorities in the NROC's priority areas of concern. The results will be assessed and a meeting, entitled the Northeast Regional Ocean Congress, will be convened with invited regional organization representatives and NROC to review and synthesize the priorities and create a report for the Oceans Working Committee, and SIMOR. This Regional Ocean Congress will take place in Spring 2007.

Status: Complete

Over sixty government officials, scientists, and NGO representatives met on May 24, 2007 at the University of New Hampshire in Durham, NH. A series of Action Items were developed to address the four NROC ocean management areas for those activities that warrant a regional response.

4) Seek an additional resolution from the NEGC/ECP annual meeting for the Oceans Working Committee to issue an annual ocean management priorities statement.

Rationale: The Annual Meeting of the New England Governors' Conference/Eastern Canadian Premiers passed resolutions in 2005 and 2006 that created NROC and the Oceans Working Committee. Future Annual Meeting resolutions should be utilized to re-affirm the Governors' and Eastern Canadian Premiers' support for enhancing and coordinating regional ocean management efforts as they mature. This statement will provide the basis for formal assistance requests by NROC to SIMOR and to Congress in order to implement the priorities in the statement. The resolution will ensure that such a process continues and has official sanction.

Approach: A 2007 resolution was crafted to direct the Oceans Working Committee to produce an annual regional ocean management priorities statement. The resolution will be submitted as part of the next Annual Meeting scheduled to take place at Prince Edward Island, June 26-27, 2007.

Status: Complete

NROC submitted this annual report the NEG/ECP annual meeting, which took place June 26 and 27, 2007, at Prince Edward Island. A new Oceans Resolution (No. 31-5) was passed and can be found at http://www.negc.org/documents/NEG-ECP_31-5.pdf .

5) Create Action Plans around the priority issue areas

Rationale: NROC's four priority areas need to be specified further in order to identify common interests between our jurisdictions. This process has already begun in NROC's initial meetings.

Approach: We propose that each state jurisdiction select one or more issues areas in which they are interested in leading the regional conversation. NROC representatives and participants will help to identify the appropriate contacts in each jurisdiction to discuss those issue areas. The lead state will convene a meeting or (as in the case of the ecosystem based management) work with other regional entities to create an action agenda. As actions are identified by NROC in this manner, they will become part of the annual priority report.

Status: In Progress